



Name _____

Date _____ Period _____

PHASE CHANGE WORKSHEET

The graph was drawn from data collected as a substance was heated at a constant rate. Use the graph to fill in the blanks.

At **point A**, the beginning of observations, the substance exists in a solid state. Material in this phase has _____ volume and _____ shape. With each passing minute _____ is added to the substance. This causes the molecules _____ more rapidly which we detect by a _____ rise in the substance, this results in a change in _____ energy. At **point B**, the temperature of the substance is _____°C. The solid begins to _____. At **point C**, the substance is completely _____ or in a _____ state. Material in this phase has _____ volume and _____ shape. The energy put to the substance between minutes 5 and 9 was used to convert the substance from _____ to _____. This heat energy is called the **heat of fusion** and is causing a change in _____ energy. Between 9 and 13 minutes, the added energy increases the _____ of the substance. During the time from **point D to point E**, the liquid is _____. By **point E**, the substance is completely in the _____ phase. Material in this phase has an _____ volume and _____ shape. The energy put to the substance between minutes 13 and 18 converted the substance from a _____ to a _____ state. This heat energy is called the **heat of vaporization**. Beyond **point E**, the substance is still in the _____ phase, but the molecules are moving _____ as indicated by the increasing temperature.

Which of these three substances was likely to be used in this phase change experiment ???

Substance	Melting Point	Boiling Point
Bolognium	20°C	100°C
Unobtainium	40°C	140°C
Foosium	70°C	140°C

Name_____

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Phase Changes:

Answer the following:

1. Changing from a liquid to a solid is called: _____
2. Changing from a liquid to a gas is called: _____
3. Changing from a gas to a liquid is called: _____
4. Changing from a solid to a gas is called: _____
5. Changing from a solid to a liquid is called: _____
6. Changing from a gas to a solid is called: _____
7. Which three phase changes require the addition of heat?
1. _____ 2. _____ 3. _____
8. Which three phase changes require the removal of heat?
1. _____ 2. _____ 3. _____
9. The temperature at which a liquid changes to a solid is called the
_____. For water, this temperature is _____ degrees Celsius and
_____ degrees Fahrenheit.
10. The temperature at which a liquid changes to a gas is called the
_____. For water, this temperature is _____ degrees Celsius and
_____ degrees Fahrenheit.
11. All phase changes are examples of _____ changes. (chemical or
physical)